

IN THE CLAIMS:

Please cancel Claims 1 - 15. Please add new Claims 16 - 35 as follows.

16. (New) A method of increasing the shelf life of a blank photomask substrate coated with a chemically amplified photoresist, said method comprising:

selecting a chemically amplified photoresist comprising a modified phenolic polymer, and an onium salt-containing chemical amplifier;

coating a photomask substrate with said chemically amplified photoresist; and

post application baking said chemically amplified photoresist on said photomask substrate at a temperature ranging between about 80 °C and about 115 ° C for a time period sufficient to ensure that after storage of said coated photomask substrate for a period of more than 2 hours, a difference in a subsequently generated photomask critical dimension feature is less than 20 nm compared with said feature generated immediately after application of said chemically amplified photoresist on said photomask substrate.

17. (New) A method in accordance with Claim 16, wherein said chemically amplified photoresist is chemically equivalent to AZ-Clariant DX 1100.

18. (New) A method in accordance with Claim 16, wherein said post application baking time period is about 7 minutes or greater.

19. (New) A method in accordance with Claim 16, wherein said period of storage is more than 30 days.

20. (New) A method of increasing the shelf life of a blank photomask substrate coated with a chemically amplified photoresist, said method comprising:

coating a photomask substrate with said chemically amplified photoresist; and
post application baking said chemically amplified photoresist on said photomask substrate at a temperature ranging between about 80 °C and about 115 ° C for a time period sufficient to ensure that after storage of said coated photomask substrate for a period of more than 2 hours, a difference in a subsequently generated photomask critical dimension feature is less than 20 nm compared with said feature generated immediately after application of said chemically amplified photoresist on said photomask substrate.

21. (New) A method in accordance with Claim 20, wherein said post application bake time period is greater than one minute.

22. (New) A method in accordance with Claim 21, wherein said post application bake time period is about 9 minutes or greater.

23. (New) A method in accordance with Claim 20, wherein said temperature ranges between about 100 °C and about 115°C.

24. (New) A method in accordance with Claim 20, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between 2 hours and 10 days, and said difference in critical dimension feature is less than about 25 nm.

25. (New) A method in accordance with Claim 20, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between about 10 days and about 45 days.

26. (New) A method in accordance with Claim 20, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between about 45 days and about 130 days.
27. (New) A method in accordance with Claim 20, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between about 130 days and about 360 days.
28. (New) A method in accordance with Claim 20, wherein said chemically amplified photoresist comprises a modified phenolic polymer.
29. (New) A method in accordance with Claim 28, wherein said post application bake time period is greater than one minute.
30. (New) A method in accordance with Claim 29, wherein said post application bake time period is about 9 minutes or greater.
31. (New) A method in accordance with Claim 28, wherein said bake temperature ranges between about 100 °C and about 115 °C.
32. (New) A method in accordance with Claim 28, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between 2 hours and 10 days, and said difference in critical dimension feature is less than about 25 nm.

33. (New) A method in accordance with Claim 28, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between about 10 days and about 45 days.

34. (New) A method in accordance with Claim 28, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between about 45 days and about 130 days.

35. (New) A method in accordance with Claim 28, wherein said period of storage of said coated photomask substrate prior to exposure to patterning radiation ranges between about 130 days and about 360 days.